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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

In the application of	:	John E. Hudson
Serial No.	:	09/688,557
Filed	:	October 16, 2000
For	:	Wireless Communication System and Method Therefor
Examiner	:	James D. Ewart
Art Unit	:	2617
Customer number	:	23644

REPLY BRIEF IN RESPONSE TO EXAMINER'S ANSWER MAILED APRIL 6, 2006

Honorable Director of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Responsive to the Examiner's Answer mailed April 6, 2006, appellant makes the following observations.

REPLY BRIEF

The present invention is directed to enhancing the wireless link bandwidth for a wireless communications system terminal (200) in a cellular wireless communications system in which data traffic is communicated between a remote terminal (132), such as a web content server, for example, in an external network, via a wireless communications system mobile switching centre (MSC) (128) and a plurality of base stations to the wireless communications system terminal (200). This is achieved by establishing a plurality of simultaneous but separate respective communications links between the terminal (200) and the plurality of base stations. Each of the plurality of simultaneous communications links carries some of the data traffic being communicated from the MSC via the plurality of base stations to the terminal, where the data traffic content of each such link comprises a different (i.e. non-identical) part of said data traffic.

The present invention thereby enables the bandwidth to the wireless terminal (200) to be considerably increased above that which could be provided on a single communications link between the wireless terminal and a single base station.

The Examiner maintains the view that the present invention would have been obvious over the combination of Kanerva (US5793744) and Rahman (US6078817). In the section "(10) Response to arguments" of the Examiner's Answer, the Examiner characterizes appellant's invention as distributing the information to be transmitted to the mobile station over multiple channels and sending the data with a plurality of base stations whereas, in contrast, Kanerva sends the data by a single base station. The Examiner indicates that he has used the Rahman reference as evidence of the well known "soft-handoff" technique to show the mobile station communicating simultaneously with a plurality of base stations. The Examiner points to the fact that Rahman discusses a method for increasing the capacity of a fully loaded macro-diversity CDMA network. Thus, the Examiner concludes that it would

be obvious to modify the system of Kanerva of communicating with a mobile station with multiple links from a single base station with the system of Rahman of communicating with a single base station using multiple links from multiple base stations.

Firstly, Kanerva does **not** disclose using multiple links from a single base station. Kanerva teaches a mobile cellular wireless communications system in which a mobile terminal establishes a single (one to one) communications link with a base station in whose cell it is located. The single communications link comprises a multiplicity of parallel channels, e.g. time-slots or carriers, as a means of increasing the link bandwidth between the terminal and the single base station. Thus, Kanerva is directed to a scheme of how to divide the single communications link between the mobile terminal and the base station into a multiplicity of channels in order to increase the portion of bandwidth available on the single communications link to the terminal. As confirmed in Kanerva, the multiplicity of parallel channels (multichannel data link) is substantially similar to a single channel link (see Kanerva, column 8, lines 25 to 27). At best, the terminal can be allocated the bandwidth of the link but not more. The link bandwidth for the terminal cannot therefore be increased above that sustainable by the single communications link between the mobile terminal and the single base station.

Secondly, while Kanerva is directed to increasing the portion of bandwidth available on the single communications link from the base station to the terminal, Rahman is directed to a method for increasing the capacity of a fully loaded macro-diversity CDMA network. In this context, capacity is not and should not be confused with increasing link bandwidth to a mobile terminal. Capacity in the context of Rahman relates to the number of mobile terminals being served by the network when, due to the already connected terminals operating in a macro-diverse manner, the network is fully loaded. Rahman addresses this by releasing one of duplicate (or triplicate) channel elements allocated to an already connected mobile terminal to an additional

terminal that has requested access to the network. In other words, Rahman removes from an already connected mobile terminal one of its allocated channel elements and allocates this to the additional terminal that has requested access in order to increase the number of terminals served by the fully loaded macro diverse CDMA network. If at all, Rahman suggests reducing the link bandwidth available to a mobile terminal, but in fact this is not the case. Rahman neither teaches increasing nor decreasing link bandwidth available to a mobile terminal because the duplicate (or triplicate) channel elements allocated to a terminal in the macro diversity mode described in Rahman involves the same content data being sent over each of the channel elements in order that the sum of the received signals can be combined to improve the reliability of the demodulation process (Rahman, column 1 lines 40-55). Therefore, in Rahman, the bandwidth available to a terminal is no different if it is allocated multiple channel elements as opposed to a single channel element.

The Examiner alleges that the appellant argues that Rahman teaches away from macro-diversity. This is not correct. At no point in the process to date has the appellant made such an observation. The Examiner is correct in pointing out that the appellant in discussing the macro-diversity scheme disclosed by Rahman has referred to that part of Rahman discussing a prior art macro-diversity scheme. However, with the exception of the load capacity monitor and channel element re-allocation means, the macro-diversity scheme referred to in column 3 of Rahman is identical to the prior art scheme referred to in column 1 and suffers from the same disadvantages, namely that "macro-diversity" results in a problem that there is a much greater chance that the network will become overloaded (Rahman, column 1 lines 59-62). The load capacity monitor and channel element re-allocation means are provided to address this problem by increasing the number of terminals being served by the network when it is fully loaded and do not and cannot increase the link bandwidth made available to a particular terminal.

Therefore, the conclusion that it would have been obvious to modify the system of Kanerva of communicating with a mobile station with multiple links from a single base station with the system of Rahman of communicating with a single base station using multiple links from multiple base stations is not based on an inaccurate consideration of what these references actually disclose.

Further, soft handoff is a technique common to mobile cellular wireless communications systems enabling a mobile terminal to communicate with two or more base stations at the same time during the handoff process. Even where a terminal has several simultaneous macro-diverse channel elements with different base stations allocated to it, the purpose of soft handoff is to enable one or more of the channel elements to be handed off to another base station. At no time does this involve the channel elements transmitting different content data.

In view of the above, there is nothing in the teaching of Rahman relating to macro-diversity and/or soft handoff that would motivate a skilled person to modify Kanerva to replace the parallel set of channels on a single communications link between the wireless terminal and the single base station by separate respective communications links between the terminal and a plurality of base stations, each link carrying non-identical content. The teaching or suggestion to make the claimed combination and the expectation of success must both be found in the prior art references and not in the applicant's disclosure. It is clear that the Examiner is making use of hindsight to declare the present invention as defined by claim 1, for example, obvious in the light of Kanerva and Rahman which address very different technical issues.

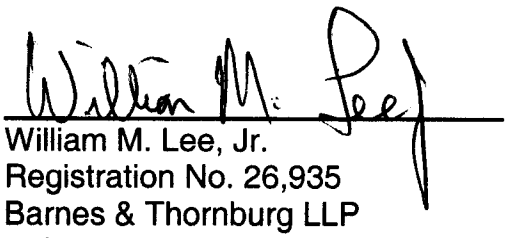
Referring now to the Willars reference, the issue of whether the plurality of modems taught by Willars are applied to the mobile terminal rather than the base station does not advance the Examiner's position. Appellant's submission with respect to Willars in the Appeal Brief of August 15, 2005 remains entirely pertinent to the issues addressed therein.

Appellant makes the foregoing submission in response to the Examiner's Answer and in support of appellant's Appeal Brief submissions which are held to remain entirely pertinent to appellant's appeal against the rejection of the current claims of this application. Therefore, the foregoing should be considered in conjunction with the submissions of appellant's Appeal Brief.

The applicant therefore urges reversal of the Examiner's various rejections of claims 1 to 48 which are believed to define an invention which is both novel and non-obvious having regard to the prior art references relied on by the Examiner, taken alone or in any combination.

June 6, 2006

Respectfully submitted,



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